

## **REMARKS**

### **I. Status of the Application**

At the time of the Action, Claims 1-18 and 37-41 were pending, Claims 19-36 having been withdrawn in response to a restriction requirement issued in an Office Action dated July 12, 2005. Claims 1-3, 8, 9, and 14-18 stand rejected under Section 102(b). Claims 4-7, 9-13 and 37-41 stand rejected under Section 103(a). These rejections are addressed below.

### **II. The Rejections of Claims 1-18**

The Action rejects Claims 1-3, 8, 9 and 14-18 as anticipated under Section 102(b) based on U.S. Patent No. 4,187,618 to Diehl (Diehl). The Action states that Diehl discloses a felt having a set of fine top machine direction yarns and coarser bottom machine direction yarns interwoven with fine cross machine direction yarns in a plurality of repeat units. A non-woven batting overlies the top machine direction yarns. In citing these recitations of Claim 1, the Action points to Figure 5 and the Abstract of Diehl. Based on these findings, the Action concludes that Diehl anticipates the subject matter of independent Claim 1 under Section 102(b).

In response to Applicants' response of January 17, 2006, in which Applicants argued that Diehl fails to disclose a fine cross machine direction yarns that interweave with both the top and bottom machine direction yarns, the Action states that:

Applicant's claims do not require that all CMD yarns must interweave with top and bottom CMD yarns. Applicant's claims only require "a set of fine cross machine direction yarns" wherein each of the fine CMD yarns *in that set* interweaves with both top and bottom machine direction yarns. The CMD yarns (20) taught by Diehl meet this limitation because they comprise a set of CMD yarns that interweave with both kinds of MD yarns. Applicant's claims do not preclude the presence of another set of CMD yarns, which may or may not interweave with both sets of MD yarns.

The Action at pages 5-6 (emphasis in original).

Applicants respectfully direct the Examiner's attention to amended Claim 1, which now recites that the fiber cement felt includes a single set of fine cross machine direction yarns, wherein each of the fine CMD yarns interweaves with both the top and bottom MD yarns. Thus, this claim now precludes the possibility of additional CMD yarns that do not interweave with both the top and bottom MD yarns. As Applicants discussed at length in Applicants' prior response, the fabric disclosed in Diehl includes CMD yarns 14 that interweave only with the top MD yarns 15. As such, Diehl cannot anticipate the subject matter of Claim 1, and Applicants respectfully request that the rejections under Section 102(b) be withdrawn.

Applicants further submit that Diehl fails to suggest the recited subject matter. Nowhere does Diehl suggest a fabric in which each of the CMD yarns interweaves with the top and bottom MD yarns. In fact, Diehl refers to "warp yarns 13 and filler yarns 14" as comprising an interwoven fabric, and subsequently mentions "strands 15" being included and held in place with "binders 20." Diehl also states that the binders 20 "are spaced from each other a longitudinal distance which is preferably substantially greater than the corresponding spacing of the filling yarns"; Figures 2 and 3 of Diehl illustrate twice as many CMD yarns 14 as binders 20 in the weave. As such, it is clear that Diehl does not suggest or teach a fabric in which all of the CMD yarns interweave with both top and bottom MD yarns.

Moreover, Claim 1 is directed to a felt for a fiber cement machine, whereas Diehl is directed to a press felt for a papermaking machine. The specification describes in some detail the fiber cement manufacturing process (*see* the specification at page 5, line 1 to page 6, line 2). In a typical fiber cement forming process, a fiber cement felt picks up fiber cement slurry, transports it over suction boxes, conveys the slurry through a nip, and delivers the nipped slurry, which is relatively thick in size, to a forming roll. In contrast, a press felt for a papermaking machine is typically in contact with the papermaking stock for much less time (ordinarily just when the relatively thin paper web travels through a nip press), and is subjected to extreme pressures. As such, a fiber cement felt experiences considerably different environmental conditions and has quite dissimilar performance parameters than does a papermaking press felt. For example, fiber cement felts typically employ coarse yarns that are an order of magnitude

larger than those of a papermaker's press felt. As discussed in the specification, problems presented to fiber cement felt designers include marking of the fiber cement product caused by the coarse yarns typically employed in fiber cement felts, the "blinding" of openings in the fabric, and compaction of layers of the felt. The use of fine CMD yarns, such as those recited in Claim 1, can assist with these problems, particularly product marking. Applicants respectfully submit that one skilled in the art of fiber cement felt design would not look to the teachings of Diehl, which are limited to papermaking press felts, for addressing issues in fiber cement making such as product marking, blinding, and compaction.

Applicants note that Section 103(a) states its inquiry as whether "the differences in the subject matter to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person of ordinary skill in the art to which the subject matter pertains." Thus, in this instance, the proper inquiry is whether it would have been obvious to a designer of fiber cement felts to conceive subject matter of Claim 1 based on the teachings of Diehl. As discussed in the specification, problems presented to fiber cement felt designers include marking of the fiber cement product caused by the coarse yarns typically employed in fiber cement felts, the "blinding" of openings in the fabric, and compaction of layers of the felt. The use of fine CMD yarns can assist with these problems, particularly product marking. Diehl does not mention these issues nor any technique for addressing them.

U.S. Patent No. 6,175,996 to Gstrein et al. (Gstrein) and U.S. Patent No. 4,503,113 to Smart (Smart) are the other references cited in the Action. Gstrein is cited for the disclosure of specific yarn patterns, MD yarn sizes, and duplex and triplex fabrics, none of which are disclosed in Diehl. Smart is cited for the disclosure for its ratio of top MD yarns to bottom MD yarns. However, both Gstrein and Smart are also directed to papermaking press felts rather than to fiber cement felts. As such, their teachings are limited to papermaking and, as discussed above, are not pertinent to fiber cement felt manufacture.

In view of the foregoing, Applicants respectfully submit that the subject matter of Claim 1 and Claims 2-18 depending therefrom over the teachings of the art of record under the provisions of Section 103(a) also.

### **III. The Rejections of Claims 37-40**

Claim 37 stands rejected under Section 103(a) based on Diehl in view of Gstrein. Claim 37 is free of the cited art for the reasons discussed above in Section II. Moreover, Claim 37 recites that the fine top MD yarns comprise upper and lower top MD yarns, such that the fabric is a triplex fabric. Regarding this recitation, the Action states that "Gstrein recognizes that triplex fabrics are generally equivalent to single and double layer fabrics in the art of making felts (column 4, lines 24-29)." Applicants respectfully but strenuously disagree with this statement for the reasons set forth below.

The cited passage of Gstrein states the following:

Those skilled in this art will recognize that other fabric constructions can be employed as the base fabric 12, including other single layer fabrics, duplex fabrics and triplex fabrics (these terms will be understood by those skilled in this art and need not be described in detail herein.

Gstrein is directed generally to a needling process for attaching batt fibers to base fabrics used in papermaking felts. The cited passage simply states that the needling process described in Gstrein can be used with simplex, duplex or triplex fabrics; it does **not** say that these different types of fabrics are generally performance equivalents (if they were, there would be no need for duplex or triplex fabrics, as simplex fabrics are typically considerably less expensive to manufacture). Nor does the passage state anything whatsoever about the fineness of CMD yarns to be used in a triplex fabric, nor about how a single set of fine CMD yarns can provide a fiber cement felt with the performance advantages achievable with the present invention.

In view of the foregoing, Applicants submit that the rejection of Claim 37 and claims dependent thereon under Section 103(a) based on Diehl and Gstrein cannot stand, and requests that it be withdrawn.

#### **IV. Rejection of Claim 41**

The Action rejects Claim 41 under Section 103(a) based on Diehl in view of U.S. Patent No. 4,503, 113 to Smart (Smart). Diehl is cited as described above; Smart is cited for the disclosure of the ratio of yarns between a fine upper layer and a coarse lower layer may be between 2:1 and 4:1. The Action states that "Smart teaches that finer yarn[s] in the upper layer allow for adequate distribution of pressure to the upper batt layer," and cites this reason as providing motivation to combine Smart with Diehl.

Applicants submit that Claim 41 is patentable over Diehl and Smart for the reasons set forth in Section II. Recalling the proper Section 103(a) inquiry as set forth above, Applicants submit that the proper inquiry is whether it would have been obvious to a designer of **fiber cement felts** to conceive subject matter of Claim 41 based on the teachings of Diehl and Smart. As discussed in the specification, problems presented to fiber cement felt designers include marking of the fiber cement product caused by the coarse yarns typically employed in fiber cement felts, the "blinding" of openings in the fabric, and compaction of layers of the felt. The use of fine CMD yarns can assist with these problems, particularly product marking.

The Action seems to take the position that a fiber cement felt designer trying to solve the problem of fiber cement product marking would have (a) looked to papermaking felt prior art, (b) combined Diehl and Smart to provide the recited ratio of top and bottom MD yarns, (c) made this combination motivated by "a higher distribution of pressure to the upper batt layer," and (d) somehow correlated a higher distribution of pressure in the upper batt layer of a papermaking felt to improved product marking in a fiber cement felt. Applicants submit that this hypothetical chain of events would have been extremely unlikely, particularly step (d), as product marking of fiber cement product is completely unrelated to pressure distribution in a papermaking felt. As such, Applicants submit that the rejections under Section 103(a) should be withdrawn for this additional reason.

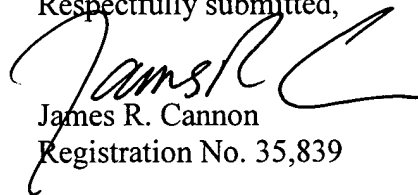
#### **V. Conclusion**

Inasmuch as all of the outstanding issues raised in the Action have been addressed, Applicant

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respectfully submits that the application is in condition for allowance, and requests that it be passed to allowance and issue.

Respectfully submitted,



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